REMARKS

I. Application Status

Claims 22-24, 30, and 37-81 are pending in the application. Claims 22, 37-45, and 55-81 are rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,541,676 (Franz et al.); claims 24, 30, and 46-54 are allowed. The status of claim 23 is unclear; however Applicants note that no specific basis for rejection is stated.

With this response, claims 22, 37, 40-45, 53-55, 57-64, 67-73, and 76-81 have been amended, claim 82 is newly added, and claims 38, 56, 65, and 74 have been canceled. No new matter is added by amendment. Reconsideration of the claims is respectfully requested.

II. Examiner Interview

The undersigned attorney thanks Examiner Alanko for the telephone interview of December 15, 2005, in which an agreement was reached. Specifically, and in accordance with 37 C.F.R. §133:

Independent claims 22, 37, 55, 64, and 73 were discussed relative to their rejection over Franz et al.

Applicants proposed amending the independent claims substantially as is shown in the Amendments to the Claims accompanying these Remarks.

Thrust of argument presented: Franz discloses metal-based gas diffusion membranes supported by a ceramic support structure for mechanical strength, and thus does not teach or suggest a metal alloy composition having improved performance characteristics to improve the membrane performance, or that the membranes are capable of moving from one position to another.

The Examiner agreed that Franz does not disclose membranes capable of moving from one position to another. The Examiner also stated that the recitation of a particular alloy percentage would be allowable.

Applicants provide the following remarks in accordance with the aforementioned interview.

III. Rejection of the Claims over Franz et al.

Claims 22, 37-45, and 55-81 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Franz et al. Applicants respectfully traverse the rejection.

Franz does not teach or suggest a microelectromechanical device comprising "at least one freestanding flexible member capable of moving from a first position to a second position," as recited in claims 22, 37, 55, 64, and 73 as amended. Support for the amendment can be found on p. 1 of the application as filed: "The movable or flexible elements of a MEMS device typically are required to move repetitively from a first, typically resting, position to a second position under application of a force."

Franz further does not teach or suggest an alloy wherein alloying element(s) are "present in an amount sufficient to provide at least one performance characteristic at least 50% greater than the platinum alone, said performance characteristic selected from the group consisting of yield strength, tensile strength and hardness," as recited in claims 22, 37, 55, 64, and 73 as amended. This limitation was previously recited in dependent claims.

Franz discloses membranes using metal-based layers that are capable of effecting gas separation and/or catalysis (col. 5, lines 39-41). Franz discloses that sub-micron thick metal layers are typically unable to withstand pressure drops concomitant with typical pressure gradients, "consequently resulting in either fracture or complete breakage of the membrane" (col. 5, lines 55-62). In order to avoid this fracture or breakage, Franz discloses using a ceramic support layer to hold the metal-based layer in place:

> The design can involve positioning the metal-based layer adjacent at least one support layer. The support layer preferably has a rigidity and stability to maintain the metal-based layer as a substantially planar layer that is substantially free of defects and/or fractures (col. 6, lines 7-12).

To summarize, Franz discloses a planar metal layer that is maintained in a rigid condition by a ceramic support layer.

Franz discloses maintaining a metal-based layer as "substantially planar," and thus teaches away from a member that is "capable of moving," as recited in claims 22, 37, 55, 64, and 73.

Franz also discloses that thin metal-based layers are inherently weak, and discloses using ceramic support layers to provide the membrane with adequate mechanical properties. Thus Franz does not teach or suggest providing an alloy wherein alloying element(s) are "present in an amount sufficient to provide at least one performance characteristic at least 50% greater than the platinum alone, said performance characteristic selected from the group consisting of yield strength, tensile strength and hardness," as recited in claims 22, 37, 55, 64, and 73.

For the foregoing reasons, it is submitted that Franz et al. do not teach or suggest the invention set forth in claims 22, 37, 55, 64, and 73 as amended, and those dependent thereon. Applicants respectfully request the rejection be withdrawn.

Applicants note that the Examiner listed claim 23 in the Office Action Summary as being rejected, but did not reject the claim within the text of the Office Action. Applicants believe that claim 23 is in condition for allowance, as Franz does not disclose a specific alloy "comprising about 70 wt.% Au and about 30 wt.% Pt" as is recited in the claim. Applicants respectfully request the rejection be withdrawn.

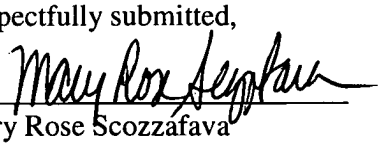
IV. Conclusion

In view of the above amendment, applicant believes the pending application is in condition for allowance.

A Petition for a one-month extension of time accompanies this Response and the Commissioner is authorized to charge any fees associated with this Petition to our Deposit Account No. 08-0219. If there are any other charges, or any credits, please apply them to Deposit Account No. 08-0219.

Dated: January 3, 2006

Respectfully submitted,

By 

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